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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,246	01/21/2004	Kia Silverbrook	MPA10US	1590
24011 7590 12/13/2007 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			EXAMINER MARTIN, LAURA E	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/760,246

Applicant(s)

SILVERBROOK ET AL.

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/09/2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

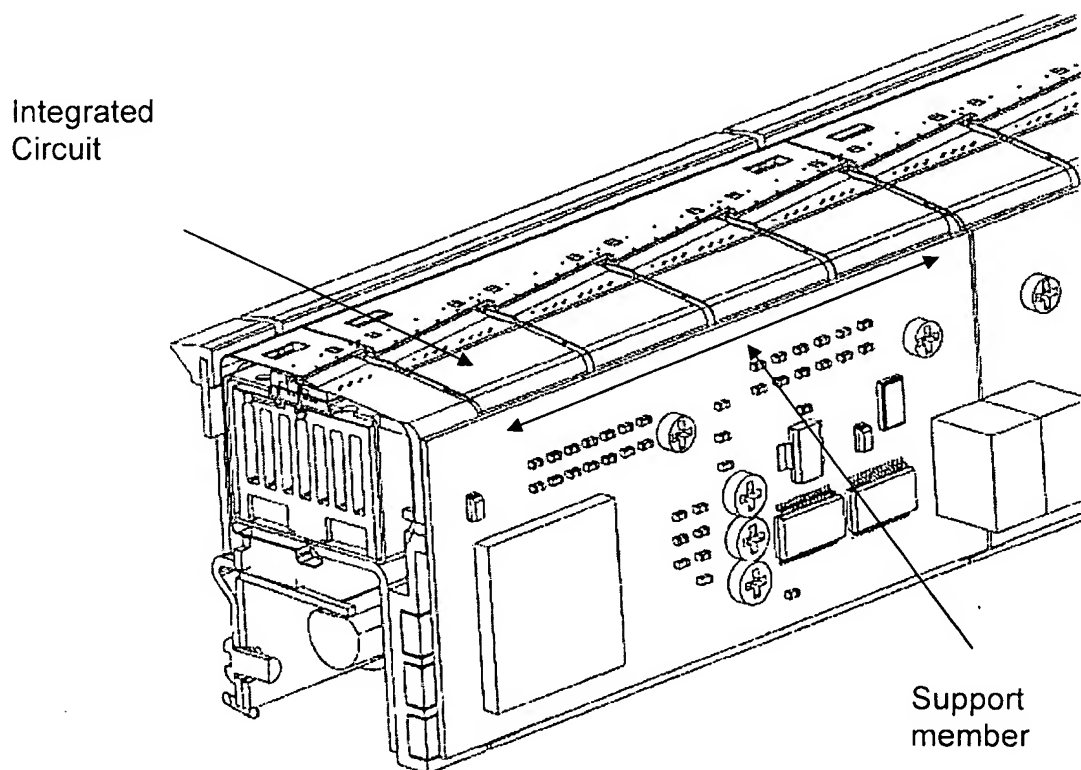
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1) in view of Moon et al. (US 20020005878 A1).

#### **Silverbrook discloses the following claim limitations:**

As per claim 1: at least two printhead modules (figure 9), each comprising a support frame (figure 8); [0058-0059], at least two printhead integrated circuits (figure 9, [0057]), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media, and a support member (figures 8 and 9) attached to the support frame on which the at least two printhead integrated circuits are mounted; and a casing

configured to removably mount at least two printheads in a linearly aligned relationship (figure 8, [0057]) such that each of the printhead modules are arranged to be individually mounted and detached from the casing as a single modular component [0057], wherein the support member has at least one longitudinally extending channel for carrying the printing fluid for the printhead integrated circuits (figure 9), and each of the printhead modules has respective end portions which permit interconnection of the linearly aligned printhead modules and provide for fluid communication of the channels of the support members thereof (figure 8 – end portion can be bottom portion, which is connected to the support member having the longitudinally extending ink channel - the modules are interconnected through the longitudinally extending channel).



As per claim 5: at least two printhead modules are formed as a unitary arrangement (figure 9) of the at least two printhead integrated circuits, the support member, at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member (figures 8 and 9), and an electrical connector for connecting the electrical signals to the at least two printheads [0056]; and each of the support members has a plurality of apertures extending from the at least one channel through a wall of the support member arranged so as to direct the printing fluid from at least one channel to associated nozzles in both, or more than two, all the printhead integrated circuits by way of respective ones of the fluid distribution members (figure 8).

**Silverbrook does not disclose the following claim limitations:**

As per claim 1: integrated circuits fixedly mounted to a support member.

**Moon et al. disclose the following claim limitations:**

As per claim 1: integrated circuits fixedly mounted to a support member [0078].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead taught by Silverbrook with the disclosure of Moon et al. because it would allow for a more simple manufacturing process.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1) and Moon et al. (US 20020005878 A1), and further in view of Milan (US 5658158).

**Silverbrook as modified discloses the following claim limitations:**

Silverbrook as modified teaches the printhead assembly of claim 1

**Silverbrook as modified does not disclose the following claim limitations:**

Silverbrook as modified does not disclose end portions comprising complementary female and male end portions.

**Milan discloses the following claim limitations:**

Milan teaches end portions of each of the printhead modules comprise complementary female and male end portions (figures 1 and 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus of Silverbrook as modified with the disclosure of Milan in order to create a secure connection within the assembly.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1), Moon et al. (US 20020005878 A1), and Milan (US 5658158), and further in view of Higgins (US 6180002).

**Silverbrook as modified discloses the following claim limitations:**

Silverbrook as modified teaches the printhead assembly of claim 2.

**Silverbrook as modified does not disclose the following claim limitations:**

Silverbrook as modified does not teach a sealing adhesive is provided at the interface of the interconnected printhead modules, wherein the sealing adhesive is an epoxy.

**Higgins as modified discloses the following claim limitations:**

Higgins teaches a sealing adhesive is provided at the interface of the interconnected printhead modules (figure 4, element 66), wherein the sealing adhesive is an epoxy (column 5, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus of Silverbrook as modified with the sealing adhesive of Higgins in order to create a higher quality and more durable ink cartridge.

***Response to Arguments***

Applicant's arguments filed 10/9/07 have been fully considered but they are not persuasive. Applicant argues that Silverbrook fails to disclose a module with two or more printhead integrated circuits; however, the printhead module with two or more integrated circuits is illustrated in the figure above. The applicant must further define the printhead module and integrated circuits in order to overcome the prior art.

Applicant argues that Milan does not disclose complementary female and male end portions; however, the examiner disagrees. Figure 1 illustrates male and female end portions. It would have been obvious to one of ordinary skill in the art at the time the invention was made that any type of interconnecting modules can use female/male end portion connections so as to provide a secure connection.

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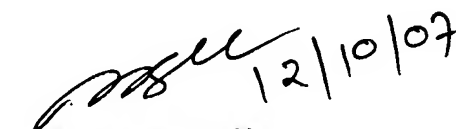
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura E. Martin



MANISH S. SHAH  
PRIMARY EXAMINER